IN THE CLAIMS:

Claims 6 and 33 through 57 were previously cancelled. Claims 1–5, 7–32 and 58–64 have been amended herein. All of the pending claims are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

1. (Currently amended) A method for applying a material between a semiconductor device having a surface and a substrate having a surface, ~~said~~ the method comprising:
applying a liquid wetting agent layer to one of ~~said~~ the surface of ~~said~~ the semiconductor device and ~~said~~ the surface of ~~said~~ the substrate; and
applying a flowable underfill material between the substrate and the semiconductor device, such that ~~said~~ the flowable underfill material contacts ~~said~~ the liquid wetting agent layer.

2. (Currently amended) The method ~~according to~~ of claim 1, wherein ~~said~~ the semiconductor device is attached to ~~said~~ the substrate.

3. (Currently amended) The method of claim 1, wherein ~~said~~ the liquid wetting agent layer includes a layer of silane-based material.

4. (Currently amended) The method ~~according to~~ of claim 1, wherein ~~said~~ applying ~~said~~ the liquid wetting agent layer comprises any one of a dispensing method, a brushing method, and a spraying method.

5. (Currently amended) The method ~~according to~~ of claim 1, wherein ~~said~~ the liquid wetting agent layer comprises at least one layer.

6. (Cancelled)

7. (Currently amended) The method ~~according to~~ of claim 1, wherein ~~said~~ the liquid wetting agent layer comprises a plurality of layers.

8. (Currently amended) The method ~~according to~~ of claim 1, wherein ~~said~~ the liquid wetting agent layer comprises one of glycidoxypropyltrimethoxysilane and ethyltrimethoxysilane.

9. (Currently amended) The method ~~according to~~ of claim 1, wherein ~~said~~ applying a liquid wetting agent layer comprises providing a material that to the surface of one of ~~said~~ the surface of ~~said~~ the semiconductor device and ~~said~~ the surface of ~~said~~ the substrate for ~~the~~ an application of an underfill material.

10. (Currently amended) A method for applying a material between a semiconductor device and a substrate, ~~said~~ the method comprising:

providing a semiconductor device having an active surface, another surface, a first end, a second end, a first lateral side, and a second lateral side, ~~said~~ the first end, ~~said~~ the second end, ~~said~~ the first lateral side, and ~~said~~ the second lateral side forming at least a portion of a periphery of ~~said~~ the semiconductor device;

providing a substrate having an upper surface, a first side wall, a second side wall, a first lateral side wall and a second lateral side wall;

applying a liquid wetting agent layer to one of ~~said~~ the active surface of ~~said~~ the semiconductor device and ~~said~~ the upper surface of ~~said~~ the substrate; and

applying a flowable underfill material between ~~said~~ the semiconductor device and ~~said~~ the substrate, such that ~~said~~ the flowable underfill material contacts ~~said~~ the applied liquid wetting agent layer.

11. (Currently amended) The method ~~according to~~ of claim 10, wherein ~~said~~ the flowable underfill material is applied substantially adjacent to at least one end of ~~said~~ the semiconductor device.

12. (Currently amended) The method ~~according to~~ of claim 10, wherein ~~said~~ the flowable underfill material substantially fills a gap between ~~said~~ the semiconductor device and ~~said~~ the substrate.

13. (Currently amended) The method ~~according to~~ of claim 10, wherein ~~said~~ the substrate includes an aperture extending through ~~said~~ the substrate.

14. (Currently amended) The method ~~according to~~ of claim 13, wherein ~~said~~ the aperture is located adjacent to ~~said~~ the another surface of ~~said~~ the semiconductor device.

15. (Currently amended) The method ~~according to~~ of claim 10, wherein ~~said~~ the flowable underfill material is provided substantially adjacent to ~~said~~ the at least a portion of the periphery of ~~said~~ the semiconductor device to fill a gap between ~~said~~ the substrate and ~~said~~ the semiconductor device.

16. (Currently amended) The method ~~according to~~ of claim 10, further comprising: elevating at least ~~said~~ the first side wall of ~~said~~ the substrate and ~~said~~ the first end of ~~said~~ the semiconductor device.

17. (Currently amended) The method ~~according to~~ of claim 16, wherein ~~said~~ elevating ~~said~~ the first side wall of ~~said~~ the substrate comprises placing ~~said~~ the substrate on a support structure and elevating at least one portion of ~~said~~ the support structure.

18. (Currently amended) The method ~~according to~~ of claim 16, further comprising: providing a dam on the substrate adjacent to at least one of ~~said~~ the first end, ~~said~~ the second end, ~~said~~ the first lateral side and ~~said~~ the second lateral side of ~~said~~ the semiconductor device.

19. (Currently amended) The method ~~according to~~ of claim 18, wherein ~~said~~ the dam extends to substantially between ~~said~~ the semiconductor device and ~~said~~ the substrate.

20. (Currently amended) The method of claim 10, further comprising:
vibrating one of ~~said~~ the semiconductor device and ~~said~~ the substrate.

21. (Currently amended) The method ~~according to~~ of claim 20, wherein ~~said~~ vibrating one of ~~said~~ the semiconductor device and ~~said~~ the substrate comprises placing ~~said~~ the substrate on a support structure and vibrating ~~said~~ the support structure.

22. (Currently amended) The method ~~according to~~ of claim 10, wherein ~~said~~ applying ~~said~~ the flowable underfill material comprises:
providing ~~said~~ the flowable underfill material substantially adjacent ~~said~~ the first end of ~~said~~ the semiconductor device for filling between ~~said~~ the substrate and ~~said~~ the semiconductor device by one or more forces acting upon ~~said~~ the flowable underfill material.

23. (Currently amended) The method ~~according to~~ of claim 10, wherein ~~said~~ the substrate includes at least one aperture extending through ~~said~~ the substrate and substantially located adjacent to ~~said~~ the another surface of ~~said~~ the semiconductor device.

24. (Currently amended) The method ~~according to~~ of claim 23, wherein ~~said~~ the flowable underfill material is provided through ~~said~~ the at least one aperture of ~~said~~ the substrate substantially filling a gap between ~~said~~ the substrate and ~~said~~ the semiconductor device.

25. (Currently amended) The method ~~according to~~ of claim 18, wherein ~~said~~ applying ~~said~~ the flowable underfill material comprises:

providing ~~said~~ the flowable underfill material substantially adjacent to ~~said~~ the first end of ~~said~~ the semiconductor device for filling a gap between ~~said~~ the substrate and ~~said~~ the semiconductor device.

26. (Currently amended) The method ~~according to~~ of claim 18, wherein ~~said~~ applying ~~said~~ the flowable underfill material comprises:

providing ~~said~~ the flowable underfill material substantially adjacent to ~~said~~ the first end and one of ~~said~~ the first lateral side and ~~said~~ the second lateral side of ~~said~~ the semiconductor device for filling a gap between ~~said~~ the substrate and ~~said~~ the semiconductor device.

27. (Currently amended) The method ~~according to~~ of claim 18, wherein ~~said~~ the substrate includes at least one aperture extending therethrough and substantially located adjacent to ~~said~~ the another surface of ~~said~~ the semiconductor device.

28. (Currently amended) The method ~~according to~~ of claim 27, wherein ~~said~~ the flowable underfill material is provided through ~~said~~ the at least one aperture.

29. (Currently amended) The method ~~according to~~ of claim 28, wherein ~~said~~ the flowable underfill material is provided from below ~~said~~ the substrate.

30. (Currently amended) The method ~~according to~~ of claim 28, wherein ~~said~~ the flowable underfill material is provided through ~~said~~ the at least one aperture contacting at least a portion of ~~said~~ the another surface of ~~said~~ the semiconductor device.

31. (Currently amended) The method ~~according to~~ of claim 10, wherein ~~said~~ applying ~~said~~ the flowable underfill material between ~~said~~ the semiconductor device and ~~said~~ the substrate further comprises placing ~~said~~ the semiconductor device and ~~said~~ the substrate in a chamber, ~~said~~ the chamber having an atmosphere therein having a variable pressure.

32. (Currently amended) The method ~~according to~~ of claim 31, further comprising:
varying the pressure of ~~said~~ the atmosphere in ~~said~~ the chamber for ~~said~~ the flowable underfill material substantially filling a gap between ~~said~~ the semiconductor device and ~~said~~ the substrate.

33.-57. (Cancelled)

58. (Currently amended) A method for attaching a semiconductor assembly, ~~said~~ the method comprising:
providing a semiconductor device having an active surface;
providing a substrate having an upper surface;
applying a liquid wetting agent layer to one of ~~said~~ the active surface of ~~said~~ the semiconductor device and ~~said~~ the upper surface of ~~said~~ the substrate;
connecting ~~said~~ the semiconductor device to ~~said~~ the substrate so that ~~said~~ the active surface of ~~said~~ the semiconductor device faces ~~said~~ the upper surface of ~~said~~ the substrate; and
applying a flowable underfill material between the substrate and the semiconductor device, such that ~~said~~ the flowable underfill material contacts ~~said~~ the applied wetting agent layer.

59. (Currently amended) The method ~~according to~~ of claim 58, wherein applying ~~said~~ the wetting agent layer comprises any one of a dispensing method, a brushing method, and a spraying method.

60. (Currently amended) The method ~~according to~~ of claim 58, wherein ~~said~~ the wetting agent layer comprises at least one layer.

61. (Currently amended) The method ~~according to~~ of claim 58, wherein ~~said~~ the wetting agent layer comprises a silane-based material.

62. (Currently amended) A method for attaching a semiconductor assembly, ~~said~~ the method comprising:

providing a semiconductor device having an active surface, a first end, a second end, a first lateral side end and a second lateral side end;

providing a substrate having an upper surface, a first side wall, a second side wall, a first lateral side wall and a second lateral side wall;

applying a silane-based material layer to one of a portion of ~~said~~ the active surface of ~~said~~ the semiconductor device and a portion of ~~said~~ the upper surface of ~~said~~ the substrate;

connecting ~~said~~ the semiconductor device to ~~said~~ the substrate so that ~~said~~ the active surface of ~~said~~ the semiconductor device faces ~~said~~ the upper surface of ~~said~~ the substrate; and

applying a flowable underfill material between ~~said~~ the semiconductor device and ~~said~~ the substrate, such that ~~said~~ the flowable underfill material contacts ~~said~~ the applied silane-based material layer.

63. (Currently amended) The method ~~according to~~ of claim 61, wherein ~~said~~ the wetting agent layer comprises one of glycidoxypropyltrimethoxysilane and ethyltrimethoxysilane.

64. (Currently amended) A method for applying a material between a semiconductor device having a surface and a substrate having a surface, ~~said~~ the semiconductor device mounted on ~~said~~ the substrate, ~~said~~ the method comprising:

applying a essentially uniform liquid silane-based wetting agent layer having a total thickness of about a monolayer to at least one of ~~said~~ the surface of ~~said~~ the semiconductor device and ~~said~~ the surface of ~~said~~ the substrate; and

applying a flowable underfill material between the substrate and the semiconductor device separately from ~~said~~ the liquid silane-based wetting agent layer, such that ~~said~~ the flowable underfill material contacts ~~said~~ the wetting agent layer.